BLANKOM®

Professional Headend Solutions

Operating instructions

SAT-TV Demodulator

DVB-S/-S2 → CI → ASI-TS & A/V

Contents

SDB 907
Part N°: 9722.01

...Setting Signals

1. Safety and operating instructions

When assembling, starting-up and adjusting the modules, it is necessary to consider the system specific references in the manual instruction.

The modules may only be installed and started up by authorized technical personnel.

When assembling the modules into the receiving points, the adherence of the EMC regulations is to be secured.

The assembly and wiring have to be done without voltage.

All active modules may only be operated with the Headend Controller HCB x00 or Bus Extender BEB x00.

The main voltage and the operating voltage of the modules working by DC have to be in complience to the operating parameters described in the technical data.

With all work the defaults of the DIN EN 50083 have to be considered. Especially the safetyrelevant execution of the DIN EN 60728-11 [6] is necessary!

2. Device variants

SDB 907 9722.01 DVB-S/-S2 → CI → ASI-TS & A/V

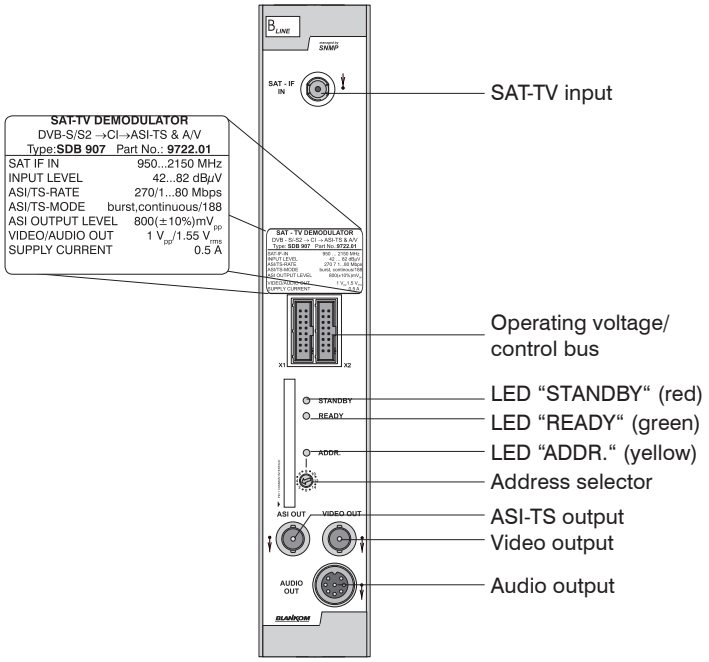
Minimum software requirements for HCB x00:
9650.03: version 2.34*
9650.04/.05: version 3.18*
9652.01: version 3.18*

*) Updates: www.blankom.de

3. General

The SAT-TV - Demodulator SDB 907 is a module of the head end system B-LINE, which is conceived as a complete system for middle sized networks. The SDB 907 demodulates DVB-S/ -S2 signals (8PSK, QPSK) into analogue audio/ video signals. A Common Interface slot enables the use of CA-Modules for the reception of scrambled SAT-signals/programmes. Additionally the processed transport stream with the descrambled services is available on the ASI output.
All the components are programmed via a central control unit and will function independently thereafter. The status of the modules are displayed via LED's (see chapter 7 "Status LED's").

4. Front view



managed by
SNMP

5. Functional description

The SAT-IF input signal is fed to the DVB-S/ -S2 front end, where the selection of a transponder and its QPSK or 8PSK demodulation are done. The data stream is routed by a switching matrix either to the Common Interface or directly to the DVB module consisting of a demultiplexer and a MPEG decoder. An analogue video- and an associated stereo-audio signal are generated within the DVB module. The video signal is filtered and the audio signal is processed by a DA converter afterwards. The SDB 907 supports the output of additional services like Teletext, WSS, VPS and optional test lines and the display of subtitle. The analogue signal outputs were fed by buffer amplifiers (for the pin assigment of the audio socket see chapter 8). The audio outputs are balanced to ground. A respective CA module with smart card, which is supported by the device, has to be used for descrambling.* Multi service decryption is possible if there are not any restrictions by the CAM itself or by the service provider. The decryption of MPEG-4 services is supported. With this module its possible to choose elementary streams of a service for decryption. So the ressources of the respective CAM/ smart card combination can be used optimally. BISS decryption can be performed by activating the software option CKB 104. Supported are the BISS mode 1 and the BISS mode E with entering the necessary Injected ID, but not the BISS mode E with the optional Buried ID. The activation of the software option CKB 105 allows the output of the processed data stream on the ASI-TS connector. The multi service decryption is enabled therby.

* The design of the Common interface of this module is done according to DVB standards. Because of the dependencies in interaction of the DVB signals, CA modules and smart cards we can not assure a general functional capability for all application possibilities. Please contact our service department for further assistance.

6. Adjustments

6.1 Adjustment with the Headend Controller

- Adjustment of the addresses at the Bus Extender BEB x00 and at the modules
- Activation of the programming mode on each module by selecting the line (BEB x00) and the module position (1... 15) at the Headend Controller(HCB x00)
  → yellow LED illuminates until the beginning of the parameter adjustment
- Adjustment of the SDB 907 parameters (see chapter 10) → green LED is switched on
- After the programming the SDB 907 will be automatically switched into the operating mode
  → yellow LED flashes shortly/ green LED is switched on

6.2 Adjustment with the PC/ laptop

- Prerequisite for the remote programming is an “online connection” according the IP standard and an ethernet connection at the PC/ laptop
- Adjustment of the line/ position addresses at the Bus Extender BEB x00 as well as at the modules
- At the Headend Controller HCB x00 input IP address (default: 192.168.2.80)
- For “direct connection” between a PC and HCB x00 use crossover cable (RJ 45)
- For connection over a HUB use a normal straight throught patch cable
- Start-up HTML browser and put in IP address as target address
- If connected correctly the web interface will be opened on the pc and a blue LED (LINK) at the HCB x00 will be lit up.
- All adjustments of the modules are specified on the web interface.

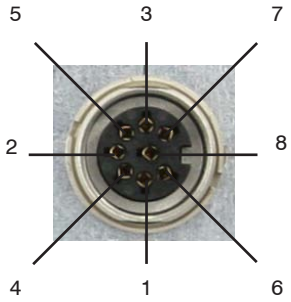
The manual instructions of the Headend Controller HCB x00 and the Bus Extender BEB x00 have to be considered!

7. Front panel LED`s

Designation (Colour))	Status	Meaning of display
STANDBY (red)	permanently on	module is in standby
	flashing	module faulty (hardware error)
READY (green)	permanently on	module working properly
	flashing	error warnings, depending on signal: - tuner not synchronized (e.g. there is no input signal) - service settings are not valid
ADDR. (yellow)	illuminated/ flashing	remote control connection/ data being exchanged

8. Audio socket

Pin assignment



1 stereo left+/ dual A+/ mono+
2 screening/ earth
3 stereo right+/ dual B+
4 stereo left-/ dual A-/ mono-
5 stereo right-/ dual B-
6 control line contact 1
7 control line contact 2
8 control line return path (earth)

Audio mode

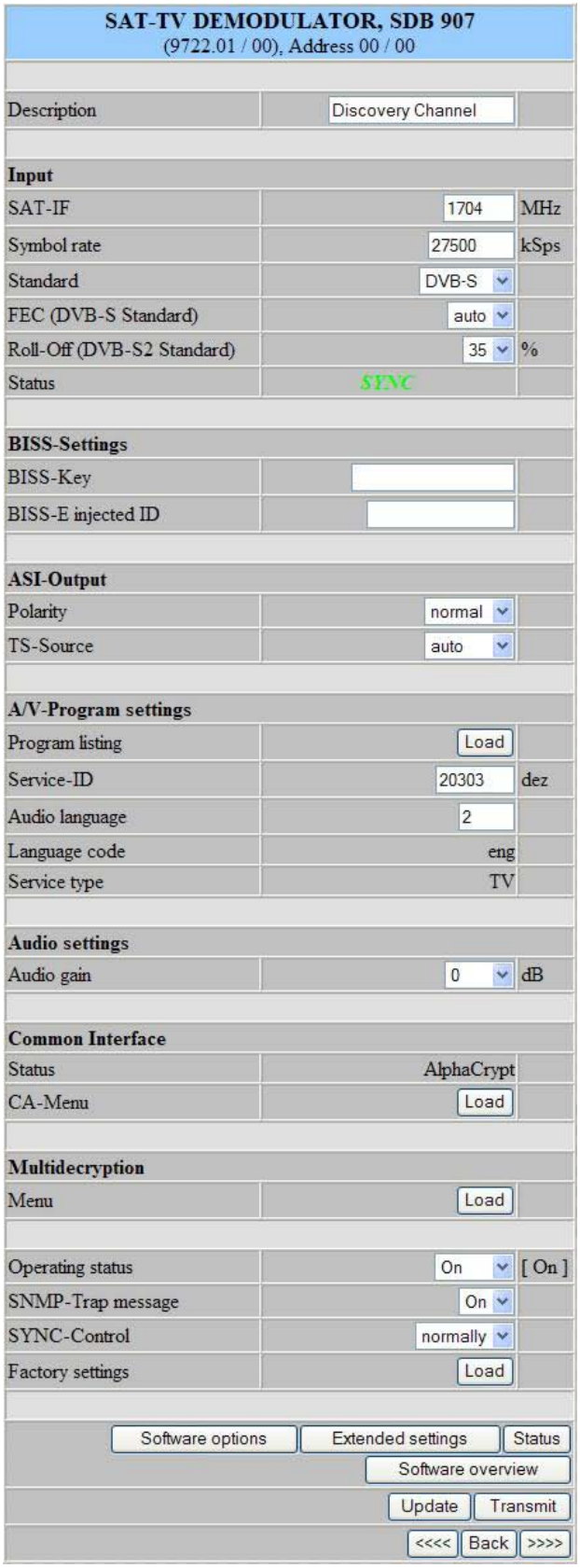
Mono Pins 6/ 8: Connection open
Pins 7/ 8: Connection closed

Stereo Pins 6/ 8: Connection closed
Pins 7/ 8: Connection open

Dual Pins 6/ 8: Connection closed
Pins 7/ 8: Connection closed
or
Pins 6/ 8: Connection open
Pins 7/ 8: Connection open

9. Programming by web server*

9.1 Main menu



Name of device, item number, address in head end

Description — Name of program (max. 30 characters)

Input

SAT-IF	adjustment range: 950 ... 2150 MHz
Symbol rate	adjustment range: 1000 ... 45000 kSps
Standard	selection: DVB-S, DVB-S2
FEC (DVB-S stand.)	selection: 1/2, 2/3, 3/4, 5/6, 7/8, auto
Roll-Off (DVB-S2 st.)	selection: 20, 25, 35 %
Status	display whether **SYNC**hronization or **noSYNC**hronization with input

BISS-Settings

(will only be available if "BISS decryption" option is on)

BISS-Key	input of the 12-digit code in BISS mode 1 or the 16-digit code in BISS mode E
BISS-E injected-ID	input of the 14-digit code in BISS mode E, no input in BISS mode 1!

ASI-Output

Polarity	selection: normal, inverse
TS-Source	selection: auto, original

A/V-Program settings

Program listing	see menu 2
Service ID	adjustment range: 0...65535
Audio language	adjustment range: 0...47
Language code	displays the code of the selected language
Service type	displays the type of selected service (TV, Radio)

Audio settings

Audio gain	adjustment range: +6...-20 dB

Common Interface

Status	status message of the CA module
CA-Menu	see menu 3

Multidecryption

Menu	see menu 4

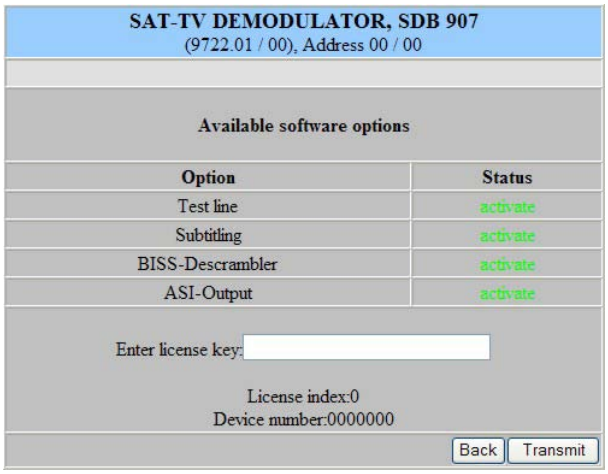
Operating status	selection: On, Off, Reset
SNMP-Trap mess.	On/Off, if SNMP option in HCB x00 is enabled,otherwise "locked" is displayed
SYNC-Control	synchronization test at input. selection: fast, normally, slowly
Factory settings	see menu 10

Routing to the appropriate adjustment menu:

Software option	see menu 1
Extended settings	see menu 8
Status	see menu 11
Software overview	see menu 12

* For further details see the HCB manual

9.2 Software options (menu 1)



Name of device, item number, address in head end

Dialogue for entering a code to activate the “test line” (CKB 101), “subtitling” (CKB 102), “BISS decryption” (CKB 104) and ”ASI output“ (CKB 105) software options . When the page is called, the current state of activation will be displayed.

9.3 Loading the program list (menu 2)

SAT-TV DEMODULATOR, SDB 907
(9722.01 / 00), Address 00 / 00

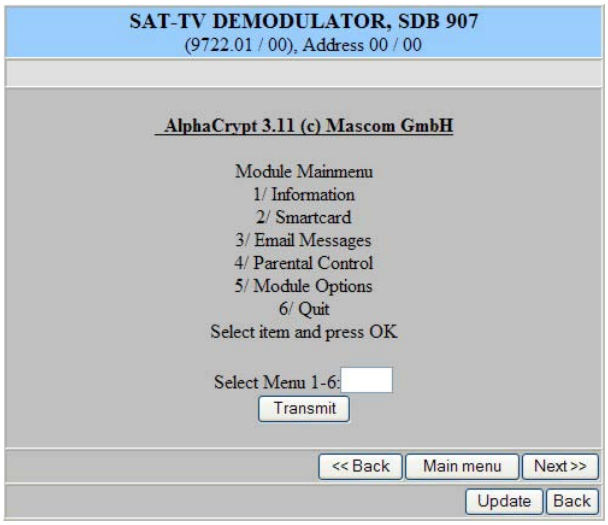
Program listing

Program name	Status	Service type	Service-ID	Audio language	Subtitle language	Selection
NOVA SPORT	coded	TV	20301	hun	missing	Set
Animal Planet	coded	TV	20302	hun	missing	Set
Discovery Channel	coded	TV	20303	hun	missing	Set
JimJam	coded	TV	20304	hun	missing	Set
Jetix/Jetix Max	coded	TV	20305	hun	missing	Set
National Geographic	coded	TV	20306	hun	cze	Set
HBO Comedy	coded	TV	20307	hun	hun	Set
Hallmark	coded	TV	20308	hun	missing	Set
Hustler TV	coded	TV	20309	eng	missing	Set
Zone Reality	coded	TV	20310	hun	missing	Set
Extreme Sports	coded	TV	20311	hun	cze	Set
UPC_EPG	free	TV	20499	---	missing	Set
Guide	free	TV	20500	---	missing	Set
Games Portal	coded	TV	20498	---	missing	Set
Game 1	coded	TV	20497	---	missing	Set
Game 2	coded	TV	20496	---	missing	Set
Game 3	coded	TV	20495	---	missing	Set
UPC Direct Radio	coded	TV	20494	---	missing	Set

Update Back

This menu contains a list of all MPEG-2 services available in the data stream. Audio- and DVB subtilte language selection can take place here if there are any available. A service is adopted or changed by clicking the relevant “Set” button.

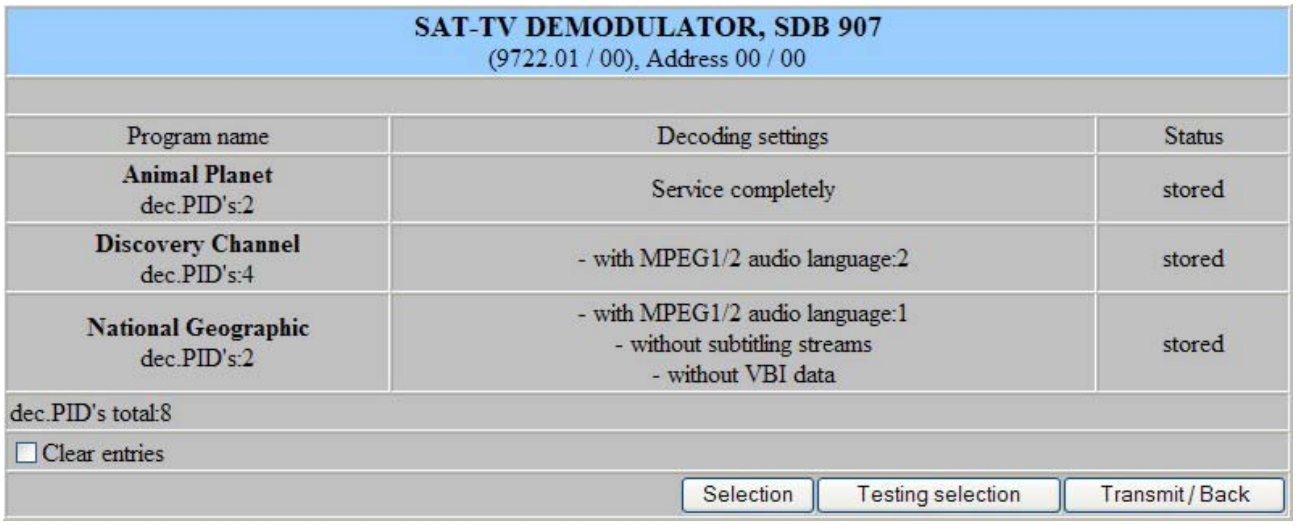
9.4 CA menu (menu 3)



Name of device, item number, address in head end

On these pages all menus implemented in the CA module are offered.The available menus are selected individually or are invoked one-by-one to do necessary settings or to get all informations about the CA module.

9.5 Multi-decryption menu (menu 4)



When calling this menu the selection of the services of the adjusted transponder, which were selected for decryption and whose decryption was successfully, appears. Indicated are the program name with the number of the decoded PID's, the decryption settings and the status of the program. "Stored" means, that the service was successfull decrypted and saved in the CA-service-list. Using the check box "Clear entries" and the "Transmit / Back" button the entire selection will be deleted and no services are decrypted afterwards. By using the "Selection" button and the appropriate selection of the services in the multi-decryption selection menu (menu 5) the list of the services to decrypt can be changed.
Using the "Testing selection" button calls the test menu (menu 6), in which the decryption state of all programs in the CA-service-list will be tested again and possible occurring errors will be listed.

9.6 Multi-decryption selection (menu 5)

SAT-TV DEMODULATOR, SDB 907
(9722.01 / 00), Address 00 / 00

Program selection			Decoding settings					
Selection	Program name	Status	private Streams	other Audio Streams	MPEG1/2 Audio Streams	Subtitling Streams	VBI Data Streams	PID-Drop list
☐	PHILIPS DOWNLOAD 1.1	free	☐	☐	no	no	☐	
☐	PHILIPS DOWNLOAD 1.2	free	☐	☐	no	no	☐	
☐	NAGRA DOWNLOAD	free	☐	☐	no	no	☐	
☐	HUMAX DOWNLOAD	free	☐	☐	no	no	☐	
☐	NOVA SPORT	coded	☐	☐	no	no	☐	
☑	Animal Planet	coded	☑	☑	all	all	☑	
☑	Discovery Channel	coded	☑	☑	eng	all	☑	
☐	JimJam	coded	☐	☐	no	no	☐	
☐	Jetix/Jetix Max	coded	☐	☐	no	no	☐	
☑	National Geographic	coded	☑	☑	eng	no	☐	
☐	HBO Comedy	coded	☐	☐	no	no	☐	
☐	Hallmark	coded	☐	☐	no	no	☐	
☐	Hustler TV	coded	☐	☐	no	no	☐	
☐	Zone Reality	coded	☐	☐	no	no	☐	
☐	Extreme Sports	coded	☐	☐	no	no	☐	
☐	UPC_EPG	free	☐	☐	no	no	☐	
☐	Guide	free	☐	☐	no	no	☐	
☐	Games Portal	coded	☐	☐	no	no	☐	
☐	Game 1	coded	☐	☐	no	no	☐	
☐	Game 2	coded	☐	☐	no	no	☐	
☐	Game 3	coded	☐	☐	no	no	☐	
☐	UPC Direct Radio	coded	☐	☐	no	no	☐	

☐ Reset CA-Modul

Simultaneous decoding of several programs depends on CA-Module and Smartcard!

Update Transmit

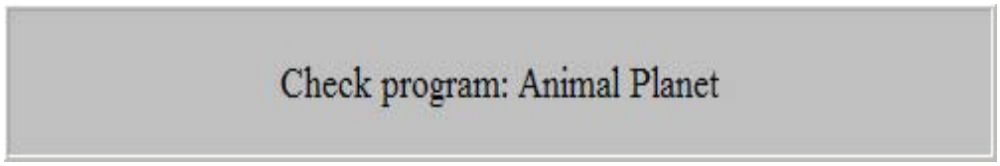
Back

In this menu all services of the adjusted transponder and their CA status are listed. The services are selectable for decryption. For each of this selected services one can determine, what streams or PID's are to be decrypted. That's important because the maximum number of the decryptable PID's is limited and this limit has a different size per CA module.
In the selection boxes "MPEG 1/ 2 Audio Streams" respective "Subtitling Streams" all, no or individual streams are selectable. If one wants to select more than one stream, but not all, the selection field "all" in the box is to be selected and in the column "PID-Drop list" all PID's have to be entered, that shall not be decrypted.*
In the column "PID-Drop list" all PID's are listed, that shall not be decrypted. The PID's can be given in decimal or hexadecimal format and have to be separated by a semicolon. The maximum number of PID's is 10.**
Individual CA modules have to be initialized once again before the CA services will be sent to the module. To do so the option "Reset CA-Modul" can be activated.

* "Other Audio Streams" includes all AC3-, DTS- and AAC-Streams. "Private Streams" selects all streams which are not captured by the other selection fields.

** Particularly PID's can be given here, which are active only at times and no authorisation for decryption is available for them.

9.7 Multi-decryption test (menu 6)



First all services, which are saved in the CA-service-list, will be tested for the current decryption status.

SAT-TV DEMODULATOR, SDB 907
(9722.01 / 00), Address 00 / 00

Program name	Decoding settings	Status
Animal Planet dec.PID's:2	Service completely	OK Info
Discovery Channel dec.PID's:4	- with MPEG1/2 audio language:2	OK Info
National Geographic dec.PID's:2	- with MPEG1/2 audio language:1 - without subtitling streams - without VBI data	OK Info

dec.PID's total:8

☐ Clear entries

Selection | Testing selection | Transmit / Back

After the end of the test the multi-decryption menu (menu 4) appears, where in the “Status“-column the test result of the respective service is stated by using the “Info“ button, the relevant information page of the test (menu 7) is displayed.
By clicking of the “Transmit / Back“ button all settings are transmitted. The “Selection“ button routes back to menu 5 to correct input values, e.g. too much PID‘s were selected.

9.8 Multi-decryption test information (menu 7)

SAT-TV DEMODULATOR, SDB 907
(9722.01 / 00), Address 00 / 00

Service Information:

Service ID	CA Information	Test result
20302	coded with CAM support	Test OK

Information about elementary streams:

PID / Typ	CA Information	Test result
151 / Video	coded with CAM support	Test OK
160 / Audio	coded with CAM support	Test OK
161 / Audio	coded with CAM support	Test OK
162 / Audio	coded with CAM support	Test OK

Back

Name of device, item number, address in head end

On this page informations about the test result of the selected service are displayed. First the final result of the test with service ID and CA information is listed, than for each requested PID the type, the CA information and the test result.

9.9 Extended settings (menu 8)

SAT-TV DEMODULATOR, SDB 907 (9722.01 / 00), Address 00 / 00		
Video		
Video output	auto Color bar	
Color bar	Off	
Color system	PAL	
Video format	letterbox	
VPS-Settings		
CNI-Code	0x000	
Source audiomode	MPEG	
Source PIL	A056 (PDC)	
Complementary data		
Teletext	On	
WSS-Insertion	On	
SDT/PMT-Processing	On	
Mode CA-PMT-Update	CA-PMT-Entry	
Subtitling		
Mode	DVB	
Settings DVB-Subtitling		
DVB-Language index	0	
DVB-Language code	---	
Use extended ID's	yes	
Composition Page ID	0	dez
Ancillary Page ID	0	dez
Settings Teletext-Subtitling		
Teletext page	0	
Background	opaque	
Character mode	auto	
The following settings are only used in manual character mode.		
Basic character	Latin	
Supplementary character	Latin	
National table	standard table	
Test line		
Line 17	Off	
Line 18	Off	
Line 330	Off	
Line 331	Off	
	Manual settings	
	Update / Transmit	
	Back	

Name of device, item number, address in head end

Video settings of the video parameters
Video output selection: On, auto Off, auto colour palette bar
Color bar selection: On, Off
Color system selection: PAL, SECAM, NTSC
Video format selection: Letterbox,center cut,1:1, pillarbox, 4:3 vertical cut, 20:9 letterbox

VPS-Settings
CNI-Code adjustment range: 0x000…0xFFF hex.
Source audiomode selection: MPEG, A056(MPEG)
Source PIL selection: A056(PDC), A056, PDC, TimerControlCode

Complementary data
Teletext selection: On, Off
WSS-Insertion selection: On, Off
SDT/ PMT-Processing selection: On, Off
Mode CA-PMT-Update selection: CA-PMT-List, CA-PMT-Entry (isn‘t supported by all CAM‘s)

Subtitling
(will only be available if “Subtitling” option is on)
Mode selection: Off, Teletext, DVB

Settings DVB-Subtitling
(will only be available if “Subtitling” option is on)
DVB-Languages index adjustment range: 0...16
DVB-Language code displays the code of the language selected
Use extended ID‘s selection: yes, no
Composition Page ID displays the ID (decimal number)
Ancillary Page ID displays the ID (decimal number)

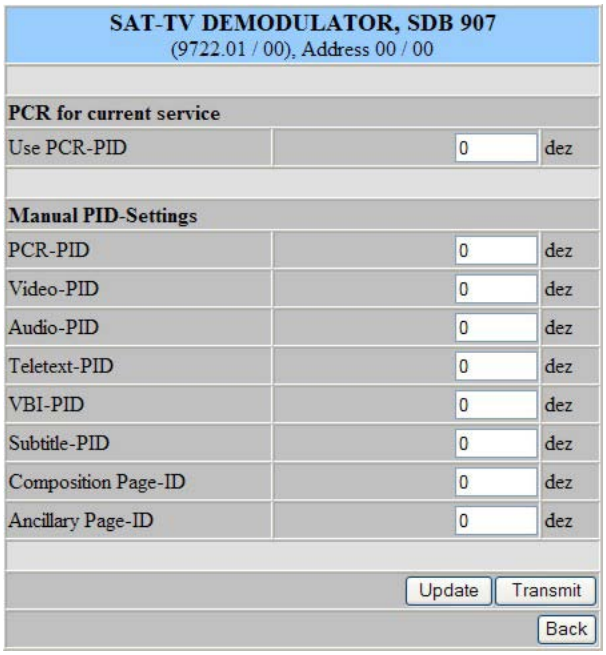
Settings Teletext-Subtitling
(will only be available if “Subtitling” option is on)
Teletext page adjustment range: 0...899
Background selection: not transparent, semi-transparent, transparent, black transparent
Character mode selection: auto, manual

The following settings are only used in manual character mode.
Basic character selection: Latin,Cyrillic-1,Cyrillic-2, Cyrillic-3, Arabic, Greek, Hebrew
Supplementary character selection: Latin, Cyrillic, Arabic, Greek, Hebrew
National table selection: standard table, alternative table, no country code, English, German, Swedish, Italian, French,Spanish, Czech, Rumanian, Polish, Estonian, Latvian, Serbian, Turkish, Danish

Test line
(will only be available if “Test lines” option is on)
Line 17 a test signal can be sent on all four of
Line 18 these lines,the signal selection is:
Line 330 off, CCIR17, CCIR 18, CCIR 330m,
Line 331 CCIR331, Sinus (x)/x, Ramp

Routing to the appropriate adjustment menu:
Manual settings see menu 9

9.10 Manual settings (menu 9)



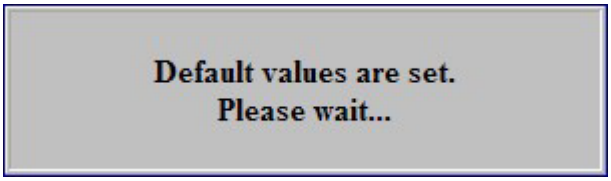
Name of device, item number, address in head end

PCR for current service
Use PCR PID adjustment range: 0..8190

Manual PID-Settings
PCR-PID adjustment range: 0..8190
Video-PID adjustment range: 0..8190
Audio-PID adjustment range: 0..8190
Teletext-PID adjustment range: 0..8190
VBI-PID adjustment range: 0..8190
Subtitle-PID adjustment range: 0..8190
Composition Page-ID adjustment range: 0..65535
Ancillary Page-ID adjustment range: 0..65535

9.11 Factory settings (menu 10)

When this menu item is requested, at first a security query whether it really set all parameters to the factory default settings pops up.



Affirming the query, all settings stored in the EEPROM will be deleted and replaced by the default settings. The module will go back to these default values. Once the setting process is over, there will be an automatic return to the main menu.

9.12 Status of the device (menu 11)

SAT-TV DEMODULATOR, SDB 907 (9722.01 / 00), Address 00 / 00		
Tuner		
Status	SYNC	
Input frequency offset	1.213 MHz	
Input power	67 dBuV	
Noise margin	8.9 dB	
BER/PER	< 1 E-6	
DVB-S2-Parameter	---	
MPEG-Decoder		
Status	TS: SYNC Audio Decoder: SYNC Video Decoder: SYNC	
Complementary data		
Current VPS-Data	PIL= TimerControlCode Audio= mono CNI= 0x0000	
Current WSS-Data	4:3 full no A056_WSS	
Test line insertion	Line 17: Off Line 18: Off Line 330: Off Line 331: Off	
Information		
Temperature	33 °C	
Device number	0000000	
Device index	00	
	Update Back	

Name of device, item number, address in head end

Tuner

Status	displays whether **SYNC**hronization or **noSYNC**hronization
Input frequency offset	displays the frequency deviation from requested input frequency
Input power	in dBµV
Noise margin	in dB
BER/ PER	bit error rate (DVB-S)/ packet error rate (DVB-S2)
DVB-S2-Parameter	according to the signalling DVB-S2 information

MPEG-Decoder

Status	Synchronization status for the TS audio and video decoder

Complementary data

Current VPS-Data	displays detailed information about current VPS data
Current WSS-Data	displays detailed information about current WSS data

The following will only be displayed if the “test lines” option is switched on:

Test line insertion	displays which test signal is set for the 4 lines

Information

Temperature	temperature of terminals board
Device number	display of the device number
Device index	display of the device index (hardware)

9.13 Software overview (menu 12)

SAT-TV DEMODULATOR, SDB 907 (9722.01 / 00), Address 00 / 00	
Version	
AP-Controller	9722.01-81.01 Steuercontroller Anschluß-LP V1.00 16.04.2009 JR
MPEG-Decoder	9611.01-86.01 (Dual) MPEG_CI V1.20 11.05.09 SS
FPGA-ASI-Encoder	9862.04-87.02 FPGA ASI-Encoder V0.04 07.05.2009 WE
	Back

Name of device, item number, address in head end

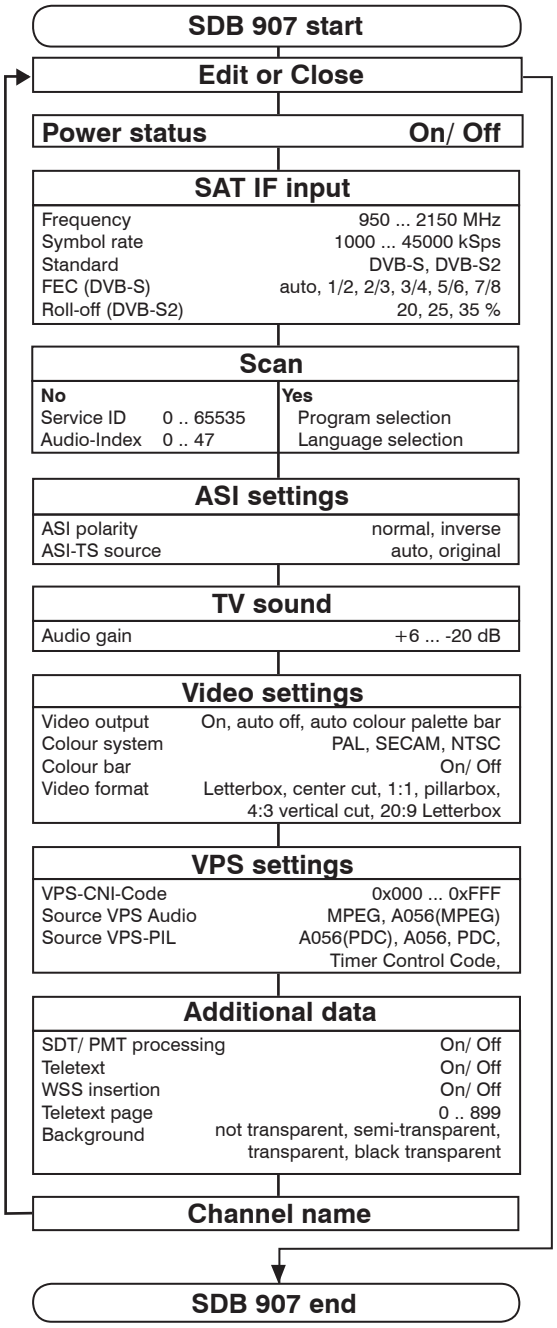
Software versions
Displays the software versions for the controllers as follows:

- Controller of terminals board

- MPEG-Decoder

- FPGA-ASI-Encoder

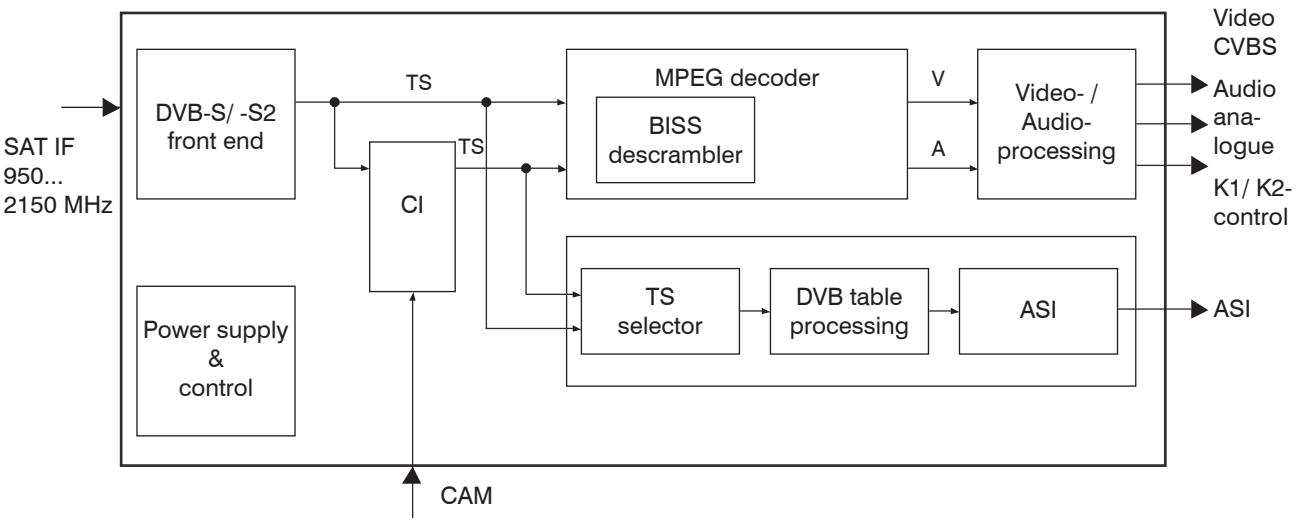
10. Manual menu control at the Headend Controller (HCB x00)



11. Trap messages

Item	Message	Message type	Explanation
01	Signal OK	INFORMATION	Component working, everything ok
02	Input not sync	WARNING	Input not synchronized
03	MPEG Error	CRITICAL	MPEG error
04	System reset	WARNING	System has been reset after internal error
05	MPEG-Decoder not sync	WARNING	MPEG decoder not synchronized
06	Power fail	CRITICAL	Power supply error
07	Decoding of service ... fail	WARNING	Error on descrambling of service...
08	Decoding of service ... ok	INFORMATION	Descrambling of service ... ok

12. Block diagram

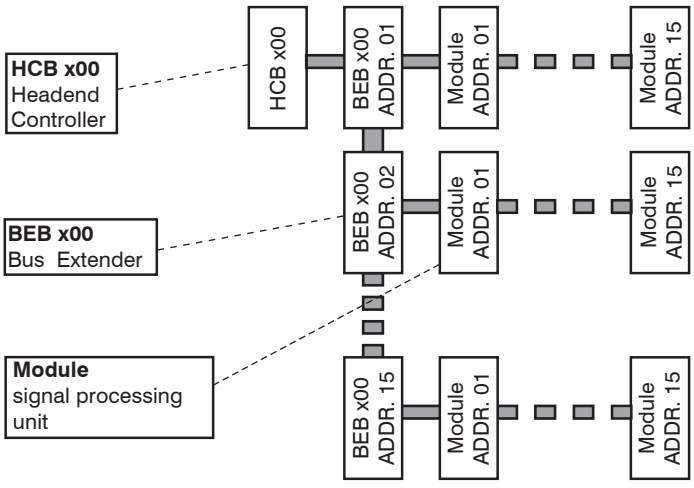


13. Operation modes

Operation mode	BISS	CAM	ASI-Out		A/V-Out (MPEG 2)	Remark
			FE-TS	CAM-TS*		
MPEG-2 DVB services	x		x		x	service ID set manual PID's = 0
		x	x		x	
		x		x	x	
MPEG-4 services		x	x			service ID = 0 manual PID's = 0
		x		x		
manual PID selection	x		x		x	manual PID's set

* CAM-TS: automatic changeover between FE- und CAM-TS

14. Head end bus structure

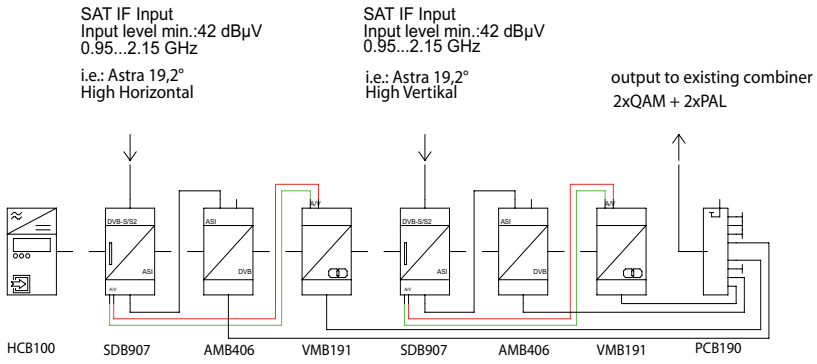


The number of the possible module connections (00 ... 15) to a BEB x00 depends on the total power consumption of this line!

15. Application example

Integration in existing B-LINE structure

Conversion of 2 SAT transponders into 2x QAM
+ 2 services of the same transponder into PAL
included the multidecryption option



16. Technical data

SAT IF input

Frequency range	950 … 2150 MHz
Frequency step	1 MHz
AFC range	± 3 MHz (SR < 10 MSps) ± 5 MHz (SR ≥ 10 MSps)
AGC level range	42 … 82 dBµV
Connector	F socket
Impedance	75 Ω

DVB-S demodulator (QPSK)

Symbol rate	1 … 45 MSps
Code rate	1/2, 2/3, 3/4, 5/6, 7/8
Roll-off	35 %
Signal processing	EN 300 421 (DVB - S) [1]

DVB-S2 demodulator (QPSK, 8PSK)

Symbol rate	QPSK	5 … 36 MSps
	8PSK	5 ... 30 MSps
Code rate	QPSK	1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
	8PSK	3/5, 2/3, 3/4, 5/6, 8/9, 9/10
Roll-off		20, 25, 35 %
Signal processing		EN 302 307 (DVB - S2) [2]

ASI output

Data rate	270 Mbps
Polarity	normal/ inverted
Mode	burst, continuous
TS data rate	according symbol rate and coding
TS mode	188 Bytes
Output voltage	800 mV_{pp} ± 10 %
Connector	BNC socket
Impedance	75 Ω
Signal processing	EN 50083-9 [3]

Decryption interface

Common Interface	PCMCIA-Slot according EN 50221 [4]
Operating voltage	5 V
Multi-Service Decryption	21 services max.

Video output

Output voltage	1 V_{pp}
Connector	BNC socket
Impedance	75 Ω

Audio output

Rated level (at digital -6 dBFS)	6 dBu
Output	symmetrical, free-of-ground
Connector	socket according DIN 45326[5] IEC 130-9-20

Operating parameters

Voltage/ current (w/o CAM)	12 V (± 0.2 V)/ 500 mA
Residual ripple of supply voltage	≤ 10 mV_{pp}

Environmental conditions

Temperature range	-10 ... +55 °C
Temperature range for data keeping	5 ... 45 °C
Relative humidity	≤ 80 % (non condensing)
Method of mounting	vertical
Location of mounting	splash-proof and drip-proof

Miscellaneous

Dimensions (l x w x h)	
without 19”-adapter	50 x 276 x 148 mm
with 19”-adapter	50 x 301 x 148 mm
Weight	1,300 g

Delivery content

1 x Bus connector
1 x Audio connecting cable ASK 525
1 x Video connecting cable VVK 526

Software options

Test line	CKB 101 (9650.51)
Subtitling	CKB 102 (9650.52)
BISS decryption	CKB 104 (9650.54)
Activation of ASI output	CKB 105 (9650.55)

17. Glossary

AP	**A**nschluss**pl**atte (Terminals board)
ASI	**A**synchronous **S**erial **I**nterface
AV	**A**udio/**V**ideo
BISS	**B**asic **I**nteroperable **S**crambling **S**ystem
CA	**C**onditional **A**ccess
CAM	**C**onditional **A**ccess **M**odule
CI	**C**ommon **I**nterface
CCIR	**C**omité **C**onsultatif **I**nternational des **R**adiocommunications
DVB	**D**igital **V**ideo **B**roadcasting (-C Cable, -S Satellite, -S2 Satellite 2, -T Terrestrial)
FPGA	**F**ield **P**rogrammable **G**ate **A**rray
HTML	**H**yper**t**ext **M**arkup **L**anguage
HTTP	**H**yper**t**ext **T**ransfer **P**rotocol
ID	**Id**entifier
IIC	**I**nter-**I**ntegrated **C**ircuit (I^2C-Bus, data bus within device)
IP	**I**nternet **P**rotocol
LED	**L**ight **E**mitting **D**iode
MC	**M**icro**c**ontroller
MIB	**M**anagement **I**nformation **B**ase
MPEG	**M**oving **P**icture **E**xperts **G**roup
NTSC	**N**ational **T**elevision **S**ystems **C**ommittee*
PAL	**P**hase **A**lternating **L**ine*
PCR	**P**rogramme **C**lock **R**eference
PDC	**P**rogramme **D**elivery **C**ontrol, synonym of VPS
PID	**P**acket **I**dentifier
PMT	**P**rogramme **M**ap **T**able
PLL	**P**hase-**l**ocked **l**oop,
SECAM	**Sé**quentiel **c**ouleur **à m**émoire*
SNMP	**S**imple **N**etwork **M**anagement **P**rotocol
SPI	**S**erial **P**eripheral **I**nterface
SPTS	**S**ingle **P**rogramme **T**ransport **S**tream
TS	**T**ransport **S**tream
TV	**T**ele**v**ision
VPS	**V**ideo **P**rogramming **S**ystem
WSS	**W**ide **S**creen **S**ignalling

* colour-encoding systems of analogue television

18. Bibliography

[1] EN 300 421: Digital Video Broadcasting (DVB): Framing structure, channel coding and modulation for 11/12 GHz satellite services

[2] EN 302 307: Digital Video Broadcasting (DVB): Second generation framing structure, channel coding and modulation systems for Broadcasting, Interactive Services, News Gathering and other broadband satellite applications

[3] EN 50083-9: Cabled distribution systems for television, sound and interactive multimedia signals, part 9: Interfaces for CATV/SMATV head ends and similar professional equipment for DVB/MPEG-2 transport streams

[4] EN 50221: Common interface specification for conditional access and other digital video broadcasting decoder applicati ons; German version EN 50221:1997 + Corrigendum:2000

[5] DIN 45326 / EN 60130-9: Connectors for frequencies below 3 MHz - Part 9: Circular connectors for radio and associated sound equipment, 2000-05

[6] EN 60728-11: Cable networks for television signals, sound signals and interactive services Part 11: Safety (IEC 60728-11:2005); German version EN 60728-11:2005

[7] RFC 1157 Request for Comments (RFC): RFC Database URL: http://www.rfc-editor.org/rfc.html

19. Document history

Version	Date	Modification	Author
1.00	05.06.2009	basic document	Häußer
1.01	23.03.2001	revision (chapter 9.9)	Häußer

Options and other TV standards available upon request. Subjects to changes due to technical progress.

CE Declaration of Conformity

The Manufacturer

BLANKOM Antennentechnik GmbH · Hermann-Petersilge-Str. 1 · 07422 Bad Blankenburg · Germany

herewith declares the conformity of the product

Product name:	SAT-TV Demodulator
Type:	SDB 907
Product number:	9722.01

according to the following regulations

EN 50083-2
EN 60728-11 (as far as relevant)

and additional device-specific regulations, enclosed above, which this product is subjected to.

Date: 04.06.2009

Signature:

(Managing Director)